

Percent Identity

	1	2	3	4	5	6	7	8	9	10	11	12	
1		49.8	64.3	61.7	33.4	30.8	28.2	16.9	61.0	29.9	25.1	18.6	hOP1
2			50.7	50.2	30.6	27.3	30.6	22.3	50.7	23.9	26.6	19.7	hOP2
3		42.2	72.4	59.3	31.3	29.8	29.7	18.8	60.1	24.2	22.9	17.8	hBMP5
4		51.3	76.9	55.7	31.2	31.6	29.7	21.2	91.4	30.1	23.2	21.0	hBMP6
5		132.3	144.0	136.2	136.8	27.0	24.0	12.6	32.1	19.7	20.4	12.7	60A
6		142.3	162.3	146.6	131.9	175.7	62.1	21.2	32.8	31.3	38.6	26.0	hBMP2
7		148.4	150.3	147.5	137.4	189.1	48.2	21.5	30.9	29.9	40.7	22.3	hBMP4
8		199.0	193.6	219.0	209.0	226.0	194.5	22.0	22.0	34.4	19.4	19.6	hGDF1
9		51.5	77.9	52.5	8.8	140.5	136.6	209.0	158.9	31.0	22.9	15.9	mBMP6(Vgr1)
10		166.3	165.1	188.1	162.5	195.1	141.4	158.3	123.3	179.2	23.1	20.6	zVg1
11		165.5	172.6	165.2	173.1	196.7	104.1	102.0	173.3	179.2	17.2	17.2	Dpp
12		285.0	271.0	276.0	260.0	285.0	261.0	237.0	255.0	243.0	264.0	264.0	hBMP3
	1	2	3	4	5	6	7	8	9	10	11	12	

Divergence

1. **NAME** _____
 2. **ADDRESS** _____
 3. **CITY** _____
 4. **STATE** _____
 5. **ZIP** _____
 6. **PHONE** _____
 7. **DATE** _____
 8. **SIGNATURE** _____
 9. **PRINT NAME** _____
 10. **PRINT ADDRESS** _____
 11. **PRINT CITY** _____
 12. **PRINT STATE** _____
 13. **PRINT ZIP** _____
 14. **PRINT PHONE** _____
 15. **PRINT DATE** _____
 16. **PRINT SIGNATURE** _____
 17. **PRINT NAME** _____
 18. **PRINT ADDRESS** _____
 19. **PRINT CITY** _____
 20. **PRINT STATE** _____
 21. **PRINT ZIP** _____
 22. **PRINT PHONE** _____
 23. **PRINT DATE** _____
 24. **PRINT SIGNATURE** _____
 25. **PRINT NAME** _____
 26. **PRINT ADDRESS** _____
 27. **PRINT CITY** _____
 28. **PRINT STATE** _____
 29. **PRINT ZIP** _____
 30. **PRINT PHONE** _____
 31. **PRINT DATE** _____
 32. **PRINT SIGNATURE** _____
 33. **PRINT NAME** _____
 34. **PRINT ADDRESS** _____
 35. **PRINT CITY** _____
 36. **PRINT STATE** _____
 37. **PRINT ZIP** _____
 38. **PRINT PHONE** _____
 39. **PRINT DATE** _____
 40. **PRINT SIGNATURE** _____
 41. **PRINT NAME** _____
 42. **PRINT ADDRESS** _____
 43. **PRINT CITY** _____
 44. **PRINT STATE** _____
 45. **PRINT ZIP** _____
 46. **PRINT PHONE** _____
 47. **PRINT DATE** _____
 48. **PRINT SIGNATURE** _____
 49. **PRINT NAME** _____
 50. **PRINT ADDRESS** _____
 51. **PRINT CITY** _____
 52. **PRINT STATE** _____
 53. **PRINT ZIP** _____
 54. **PRINT PHONE** _____
 55. **PRINT DATE** _____
 56. **PRINT SIGNATURE** _____
 57. **PRINT NAME** _____
 58. **PRINT ADDRESS** _____
 59. **PRINT CITY** _____
 60. **PRINT STATE** _____
 61. **PRINT ZIP** _____
 62. **PRINT PHONE** _____
 63. **PRINT DATE** _____
 64. **PRINT SIGNATURE** _____
 65. **PRINT NAME** _____
 66. **PRINT ADDRESS** _____
 67. **PRINT CITY** _____
 68. **PRINT STATE** _____
 69. **PRINT ZIP** _____
 70. **PRINT PHONE** _____
 71. **PRINT DATE** _____
 72. **PRINT SIGNATURE** _____
 73. **PRINT NAME** _____
 74. **PRINT ADDRESS** _____
 75. **PRINT CITY** _____
 76. **PRINT STATE** _____
 77. **PRINT ZIP** _____
 78. **PRINT PHONE** _____
 79. **PRINT DATE** _____
 80. **PRINT SIGNATURE** _____
 81. **PRINT NAME** _____
 82. **PRINT ADDRESS** _____
 83. **PRINT CITY** _____
 84. **PRINT STATE** _____
 85. **PRINT ZIP** _____
 86. **PRINT PHONE** _____
 87. **PRINT DATE** _____
 88. **PRINT SIGNATURE** _____
 89. **PRINT NAME** _____
 90. **PRINT ADDRESS** _____
 91. **PRINT CITY** _____
 92. **PRINT STATE** _____
 93. **PRINT ZIP** _____
 94. **PRINT PHONE** _____
 95. **PRINT DATE** _____
 96. **PRINT SIGNATURE** _____
 97. **PRINT NAME** _____
 98. **PRINT ADDRESS** _____
 99. **PRINT CITY** _____
 100. **PRINT STATE** _____
 101. **PRINT ZIP** _____
 102. **PRINT PHONE** _____
 103. **PRINT DATE** _____
 104. **PRINT SIGNATURE** _____
 105. **PRINT NAME** _____
 106. **PRINT ADDRESS** _____
 107. **PRINT CITY** _____
 108. **PRINT STATE** _____
 109. **PRINT ZIP** _____
 110. **PRINT PHONE** _____
 111. **PRINT DATE** _____
 112. **PRINT SIGNATURE** _____
 113. **PRINT NAME** _____
 114. **PRINT ADDRESS** _____
 115. **PRINT CITY** _____
 116. **PRINT STATE** _____
 117. **PRINT ZIP** _____
 118. **PRINT PHONE** _____
 119. **PRINT DATE** _____
 120. **PRINT SIGNATURE** _____
 121. **PRINT NAME** _____
 122. **PRINT ADDRESS** _____
 123. **PRINT CITY** _____
 124. **PRINT STATE** _____
 125. **PRINT ZIP** _____
 126. **PRINT PHONE** _____
 127. **PRINT DATE** _____
 128. **PRINT SIGNATURE** _____
 129. **PRINT NAME** _____
 130. **PRINT ADDRESS** _____
 131. **PRINT CITY** _____
 132. **PRINT STATE** _____
 133. **PRINT ZIP** _____
 134. **PRINT PHONE** _____
 135. **PRINT DATE** _____
 136. **PRINT SIGNATURE** _____
 137. **PRINT NAME** _____
 138. **PRINT ADDRESS** _____
 139. **PRINT CITY** _____
 140. **PRINT STATE** _____
 141. **PRINT ZIP** _____
 142. **PRINT PHONE** _____
 143. **PRINT DATE** _____
 144. **PRINT SIGNATURE** _____
 145. **PRINT NAME** _____
 146. **PRINT ADDRESS** _____
 147. **PRINT CITY** _____
 148. **PRINT STATE** _____
 149. **PRINT ZIP** _____
 150. **PRINT PHONE** _____
 151. **PRINT DATE** _____
 152. **PRINT SIGNATURE** _____
 153. **PRINT NAME** _____
 154. **PRINT ADDRESS** _____
 155. **PRINT CITY** _____
 156. **PRINT STATE** _____
 157. **PRINT ZIP** _____
 158. **PRINT PHONE** _____
 159. **PRINT DATE** _____
 160. **PRINT SIGNATURE** _____
 161. **PRINT NAME** _____
 162. **PRINT ADDRESS** _____
 163. **PRINT CITY** _____
 164. **PRINT STATE** _____
 165. **PRINT ZIP** _____
 166. **PRINT PHONE** _____
 167. **PRINT DATE** _____
 168. **PRINT SIGNATURE** _____
 169. **PRINT NAME** _____
 170. **PRINT ADDRESS** _____
 171. **PRINT CITY** _____
 172. **PRINT STATE** _____
 173. **PRINT ZIP** _____
 174. **PRINT PHONE** _____
 175. **PRINT DATE** _____
 176. **PRINT SIGNATURE** _____
 177. **PRINT NAME** _____
 178. **PRINT ADDRESS** _____
 179. **PRINT CITY** _____
 180. **PRINT STATE** _____
 181. **PRINT ZIP** _____
 182. **PRINT PHONE** _____
 183. **PRINT DATE** _____
 184. **PRINT SIGNATURE** _____
 185. **PRINT NAME** _____
 186. **PRINT ADDRESS** _____
 187. **PRINT CITY** _____
 188. **PRINT STATE** _____
 189. **PRINT ZIP** _____
 190. **PRINT PHONE** _____
 191. **PRINT DATE** _____
 192. **PRINT SIGNATURE** _____
 193. **PRINT NAME** _____
 194. **PRINT ADDRESS** _____
 195. **PRINT CITY** _____
 196. **PRINT STATE** _____
 197. **PRINT ZIP** _____
 198. **PRINT PHONE** _____
 199. **PRINT DATE** _____
 200. **PRINT SIGNATURE** _____
 201. **PRINT NAME** _____
 202. **PRINT ADDRESS** _____
 203. **PRINT CITY** _____
 204. **PRINT STATE** _____
 205. **PRINT ZIP** _____
 206. **PRINT PHONE** _____
 207. **PRINT DATE** _____
 208. **PRINT SIGNATURE** _____
 209. **PRINT NAME** _____
 210. **PRINT ADDRESS** _____
 211. **PRINT CITY** _____
 212. **PRINT STATE** _____
 213. **PRINT ZIP** _____
 214. **PRINT PHONE** _____
 215. **PRINT DATE** _____
 216. **PRINT SIGNATURE** _____
 217. **PRINT NAME** _____
 218. **PRINT ADDRESS** _____
 219. **PRINT CITY** _____
 220. **PRINT STATE** _____

1. The first step is to identify the problem. In this case, the problem is that the company is not meeting its sales targets.

hOP1
hOP2
hBMP
hBMP
60A
hBMP
hBMP
hGDF
mBMP
zVg1
Dpp
hBMP

Monday, June 02, 2003 9:34 AM

```
-----LREVOKEILSVILGPHRPRP-----PGOLA-----SAPLFMLDLYNAMSCE-----
210 220 230 240 250 260 270 280 290 300
-----RREMQREILSIILGPHRPHL-----QKHN-----SAPMFMLDLYNAMAVE----- 94
-----RQDVQREILAVILGPHRPRAP-----PAASRLP-----ASAPLFMLDLYHAWAGD----- 88
-----RREIQREILSIILGPHRPPFS-----PGKQAS-----SAPLFMLDLYNAMTNE----- 92
-----KREMQREILSVILGPHRPRPLHGLQOPPALR-QQEQQQQQQLPRGEPPLGRLKSAPLFMLDLYNALSNDDEGGA 152
-----KLDVSYEILFLGIAERPHLS-----SHQLSLR-----KSAPKFLLDVYHRITAE----- 107
-----VISEFELRLISMFGLKQRPDP-----SRD-----AVVPFYMFLDLYRRHSQG----- 90
-----LLRDFEATLLQMFGLRRRQP-----SKS-----AVIPDYMRDLYLRLQSGE----- 94
-----PAAALLOALGLRDEPQG-----APRLR-----PVPPVMWRLFRRRDPQ----- 73
-----KREMQREILSVILGPHRPRPLHGLQOPPVLPQQQQQQQQQTAREEPPPGRLKSAPLFMLDLYNALSNDDEGGA 150
-----VQEKLFSSMGLWSRPK-----PSHHA-----AVPSQMWKLFKQASKQ----- 63
QGPSTYSKEALIKKLPDPSTLVEIEKSILLSFNMRPKI-----DRSK-----IILPEPMKKLYAEIMGH----- 264
-----KVSEHMLRLYDRYSTVQAAAR-----TPGSLEGGSQ-----PWRPRLREGNTVRSFR----- 102
```

hOP1

hOP2

hBMP5

hBMP6

60A

hBMP2

hBMP4

hGDF1

mBMP6 (Vgr1)

zVg1

Dpp

hBMP3

```
-----EGERGAHS-----L-----L-S-QDSRFLNDADIVMSFVNIVE-----LDKDFSHSHRHHKEKFDLSC-----
310 320 330 340 350 360 370 380 390 400
-----GGPGGQGFSS---YPYKAVFS-----TQGPPLASLQDSHFLTDADWMSFVNIVE-----HDKEFFHPRYHHREFFDLISK 162
-----DDEGAPAEK-----R-----LGRADIVMSFVNIVE-----RDRALGHQEPHWKKEFRFDLTQ 134
-ENPESEYSVRASIAEETRGAARKGYPASNGYPRRIQISRTITLTQSPPLASLHDINFLNDADWMSFVNIVE-----RDKDFSHQRRHYKKEFRFDLTQ 184
SEGERQQSWPHEAASSSRQRPFGAAHP---LNRKSLLAPGSGS-GGASPLTSAQDSAFINDADWMSFVNIVE-----YDKEFSRQRRHHKEKFNLSQ 244
-EGLSQD-----DEDDDYERCHRSR---RSADLEEDBG-BQOKNFITDLDKRAIDESDIIMTFINKRH---HNVDIELR-HEHGRRLMFVDSN 184
-----PGSPAPDHR-----LERAASRANTVRSFHHEES-----LEELPETSGKITRRFFFNLS 138
-----EEEEQIHSTG-----YPERPASRANTVRSFHHEEH-----LENIPTGSENASFRFLFNLS 144
-----ETRSGRRT-----SPGVT-----LQCHVEELGVAGNIVRHPDRGAPTRASEFVSAGHCPEWTVFDSL 134
SEGVGQEPGSHGGASSQLRQSPGAAHS---LNRKSLLAPGPG---GGASPLTSAQDSAFINDADWMSFVNIVE-----YDKEFSRQRRHHKEKFNLSQ 244
-----TVN-----DPCVVSEYGVGNIVRGMQDQGS---LISAPAVHSFNCVRKHLFFNMSV 114
-----ELDSVNIPK-----PGLLTKSANTVRSFTHKDS-----KIDD-RFPHHRRFLHFDVKS 314
-----AAAAETLERKGLYIFNLTSITK-----SENILSATLYFCIGELGNISLCPVSGGCSHHAQRKHIQIDLSAWTLKFSRNC 174
```

hOP1

hOP2

hBMP5

hBMP6

60A

hBMP2

hBMP4

hGDF1

mBMP6 (Vgr1)

zVg1

Dpp

hBMP3

TPGEAVTAAELRIYKDAVSGAFK--NR1TH-----IS1YOVLOE---HVGRSDLFLLDTRITWASEEGWLVFDVTAASNRWV---KROENLIG

LOLEWETLD-----GRHWNPRRAGLVGRDGPQKOPEMVTFKZSEVHARTTIRAS-----RR-O-RNKSOQSODSVRPSNVSD-S-----ACKRHELY

hop1	LQLSVETILD-----GQSINPKLAGLIGRHGPQNKQPFMVAFFKATEVHFIRSIRSTGS--KORSQNRSKPTKPNQOEALRMVANVAENSSSDQORQAKKHELY 331
hop2	LRLVETED-----GHSVDPLAGLIGRAPRSQQPFVVTFFRASPSPIRTPRAVRP--LFRROPKPKSNELPQANRLPGIFDDVHGSHGRQVCRRHLY 307
hBMP5	LQLCAETGD-----GRSINVKSAGLVGRQPQSKQPFMVAFFKASEVLLRSVRAAN--KRKNQNRNKSSSHQDSRRMSSVGVYNTSEQKQACKKHELY 359
hBMP6	LQLSVVTRD-----GVVHPRAAGLVGRDGPYDKQPFMVAFFKIVSEVHVTRTSASS--RRRQQRNRSTQSDQDVARVSSASDYNSSSELKTACRKHELY 418
60A	TYTGAHAVNR-----PDREVKLDDIGLILHRKVDDFEQPFMIGFFTRGPE--LIKATAHSSH--HRSKRSASHPRKRKKSVPNNVPLLEPWESTRSCQMOTLY 360
hBMP2	FVVEVAHLEEKQGVSKRHVRI SRSILHQDEHSWSQIRPLLVTFGHDKGCHPLHKR-----EKQAKHK-QRKRLKS-----SKRKHPLY 302
hBMP4	LALIEVTHLHQTRTHQGHVRI SRSILPQSGSNWAQLRPLLVTFEGHDCRGCHALTRRRR-----AKRSPKHHSQAPARKKNK-----NCRRHSLY 314
hGDF1	LALALRPRAP-----AACARLA--EASILLVTLDP-----RLCHPL-----APPRDAEPLVIGGPGG-----ACRARRLY 273
mBMP6 (Vgr1)	LQLSVVTRD-----GLHVNPRAGLVGRDGPYDKQPFMVAFFKIVSEVHVTRTSASS--RRRQQRNRSTQSDQDVRSGSGSSDYNNGSELKTACKKHELY 419
zVg1	MQLELQVMHLN-----NMLHDHAVVQIPDIHATLVVVSINP-----LQCR-----SRKRSASYLLPVTPSN-----VCKPRRLY 260
Dpp	LLVVEVTRVRSILKPAPHHHVRLRRSDEAHERWQHKOPLLFTYTTDDGRHKARSIRDVSGEGGGKGGGNKKQPRRP--TRRNKHDD-----TCRRHSLY 493
hBMP3	IRAAISITERRKKRSTGVLLPLQNNELPGAIEYQYKKDEWEERKPYKITLQAQAPKSKNKKQKGPHPKRSQTLQFDEQTLKKAPRKQWIEPRNCARRYLK 376

VSFSDLGWODWI IAPEGYAAANYCHGECSFPIAZAHWA-----TNHAI VOTLVHLMNPEK--VPKECAPTKLSAISLVLYFDNNSVWLKKYRNMVVRACGCH

hOP1	431
hOP2	402
hBMP5	454
hBMP6	513
60A	455
hBMP2	390
hBMP4	408
hGDF1	372
mBMP6 (Vgr1)	510
zVg1	355
Dpp	588
hBMP3	472

hOP1	431
hOP2	402
hBMP5	454
hBMP6	513
60A	455
hBMP2	390
hBMP4	408
hGDF1	372
mbBMP6 (Vgr1)	510
zVg1	355
Dpp	588
hBMP3	472

Monday, June 02, 2003 9:34 AM

Percent Identity

	1	2	3	4	5	6	7	8	9	10	11	12	
1		49.8	64.3	61.7	33.4	30.8	28.2	16.9	61.0	29.9	25.1	18.6	1
2			50.7	50.2	30.6	27.3	30.6	22.3	50.7	23.9	26.6	19.7	2
3		75.0		59.3	31.3	29.8	29.7	18.8	60.1	24.2	22.9	17.8	3
4		42.2	72.4		31.2	31.6	29.7	21.2	91.4	30.1	23.2	21.0	4
5		51.3	76.9	55.7		27.0	24.0	12.6	32.1	19.7	20.4	12.7	5
6		132.3	144.0	136.2	136.8		62.1	21.2	32.8	31.3	38.6	26.0	6
7		142.3	162.3	146.6	131.9	175.7		21.5	30.9	29.9	40.7	22.3	7
8		148.4	150.3	147.5	137.4	189.1	48.2		22.0	34.4	19.4	19.6	8
9		199.0	193.6	219.0	209.0	226.0	207.0	194.5		31.0	22.9	15.9	9
10		51.5	77.9	52.5	8.8	140.5	129.0	136.6	209.0		23.1	20.6	10
11		166.3	165.1	188.1	162.5	195.1	141.4	158.3	123.3	158.9		17.2	11
12		165.5	172.6	165.2	173.1	196.7	104.1	102.0	214.0	173.3	179.2		12
		285.0	271.0	276.0	260.0	285.0	261.0	237.0	255.0	265.0	243.0	264.0	
	1	2	3	4	5	6	7	8	9	10	11	12	

hOP1

hOP2

hBMP5

hBMP6

60A

hBMP2

hBMP4

hGDF1

mBMP6(Vgr1)

zVg1

Dpp

hBMP3

Divergence